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# *Indian Standard*

# SPECIFICATION FOR STABILIZED METHOXY ETHYL MERCURY CHLORIDE ( MEMC ) CONCENTRATE

## *( First Revision )*

UDC 632·951 MEMC

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
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Gr 2 *April* 1985

# *Indian Standard*

# SPECIFICATION FOR STABILIZED METHOXY ETHYL MERCURY CHLORIDE ( MEMC ) CONCENTRATE

## *( First Revision )*

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# AMENDMENT NO. 1 MAY 1994
# TO
# IS 2127 : 1984 SPECIFICATION FOR STABILIZED METHOXY ETHYL MERCURY CHLORIDE (MEMC) CONCENTRATE

*( First Revision )*

( *Page* 6, *clause* **4.1** ) — Substitute the following for the existing:

'When freshly manufactured material in bulk quantity is offered for inspection, representative samples of the material shall be drawn and tested as prescribed in IS 10627 : 1983 within 90 days of its manufacture. When the material is offered for inspection after 90 days of its manufacture, sampling shall be done as prescribed in IS 10627 : 1983. However, the criteria for conformity of the material when tested, shall be the limits of tolerances, as applicable over the declared nominal value and given under clause **2.2.1** of the standard.'

**( FAD 1 )**

**Reprography Unit, BIS, New Delhi, India**

# *Indian Standard*

# SPECIFICATION FOR STABILIZED METHOXY ETHYL MERCURY CHLORIDE ( MEMC ) CONCENTRATE

## *( First Revision )*

## 0. FOREWORD

**0.1** This Indian Standard ( First Revision ) was adopted by the Indian Standards Institution on 31 December 1984, after the draft finalized by the Pest Control Sectional Committee had been approved by the Agricultural and Food Products Division Council and the Chemical Division Council.

**0.2** Methoxy ethyl mercury chloride ( MEMC ) technical is unstable. The addition of sodium carbonate and sodium hydrogen carbonate stabilizes this material which is then used in the preparation of seed dressing agents for the treatment against fungal and bacterial diseases in agriculture.

**0.3** MEMC are generally manufactured to contain 12 percent of mercury ( *m/m* ).

**0.4** This standard was first issued in 1962. Subsequently two amendments were issued. It is being revised to up date its requirements.

**0.5** In the preparation of this standard, due consideration has been given to the provisions of the *Insecticides Act*, 1968 and the. Rules framed thereunder. However, this standard is subject to the restrictions imposed underthese, wherever applicable.

**0.6** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960[*]. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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[*] Rules for rounding off numerical values ( *revised* ).

## 1. SCOPE

**1.1** This standard prescribes the requirements and the methods of sampling and test for stabilized methoxy ethyl mercury chloride concentrate.

## 2. REQUIREMENTS

**2.1 Description** — The material shall comprise essentially of methoxy ethyl mercury chloride mixed with sodium carbonate and sodium hydrogen carbonate, and shall be in the form of white powder.

**2.2** The material shall also comply with the requirements as given in Table 1.

### TABLE 1 REQUIREMENTS FOR STABILIZED METHOXY ETHYL MERCURY CHLORIDE CONCENTRATE

| Sl No. | Characteristic | Requirement | Method of Test, Ref to | |
|---|---|---|---|---|
| | | | Appendix of this Standard | Appendix of IS : 3284-1984* |
| (1) | (2) | (3) | (4) | (5) |
| i) | Mercury content, percent by mass | Nominal value as declared on the container ( *see* 2.2.1 ) | — | A ( *See* Note ) |
| ii) | Sieving requirements, material passing through IS Sieve 30†, percent by mass, *Min* | 98 | A | — |
| iii) | Material insoluble in water, percent by mass, *Max* | 1·5 | B | — |

Note — The quantity of the material taken for estimating the mercury content in this product shall be between 0·5 to 2·0 g.

*Specification for organo mercurial dry seed dressing formulations ( *first revision* ).

†*See* IS : 460 ( Part 1 )-1978 'Specification for test sieves: Part 1 Wire cloth test sieves ( *second revision* )'. In case IS Sieve 30 is not available, BS Test Sieve 52, or ASTM Sieve 50 may be used.

**2.2.1** *Mercury Content* — When determined by the method prescribed in Appendix A of IS : 3284-1984* the observed mercury content, percent ( *m/m* ), of any of the samples shall not differ from the declared nominal

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*Specification for organo mercurial dry seed dressing formulations ( *first revision* ).

value by more than the tolerance limits indicated below:

| *Nominal Value, Percent* | *Tolerance Limit, Percent* | |
|---|---|---|
| Up to 9 | + 10<br>− 5 | of the nominal value |
| Above 9 and below 50 | ± 5 | |
| 50 and above | + 5<br>− 3 | |

**2.2.1.1** The actual value of mercury content shall be calculated to the second decimal place and then rounded off to the first decimal place before applying the tolerances as stipulated in **2.2.1**.

**2.2.1.2** The average content of all samples taken shall not be less than the declared nominal value.

## 3. PACKING AND MARKING

**3.1 Packing** — The material shall be packed as per requirement given in IS : 8190 ( Part 1 )-1980*.

**3.2 Marking** — The containers shall be securely closed and shall bear legibly and indelibly the following information in addition to any other information required under the *Insecticides Act* and Rules:

a) Name of the material;
b) Name of manufacturer;
c) Date of manufacture;
d) Batch number;
e) Net mass of contents;
f) Mercury content, percent ( *m/m* ); and
g) The minimum cautionary notice as worded in the *Insecticides Act* and Rules.

**3.2.1** The container may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

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*Requirements for packing of pesticides: Part 1 Solid pesticides ( *first revision* ).

## 4. SAMPLING

**4.1** Representative samples of the material shall be drawn as prescribed in IS : 10627-1983*.

## 5. TESTS

**5.1** Tests shall be carried out as prescribed in the appropriate Appendices given in col 4 and 5 of Table 1.

**5.2 Quality of Reagents** — Unless specified otherwise, pure chemicals and distilled water ( *see* IS : 1070-1977† ) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

# APPENDIX A

[ *Table* 1, *Item* (ii) ]

## TESTS FOR SIEVING REQUIREMENT

### A-1. APPARATUS

**A-1.1 Test Sieve** — IS Sieve 30 ( aperture 296 microns ), prepared for test by removing any film, grease or other water repellent material and then drying.

### A-2. PROCEDURE

**A-2.1** Weigh accurately 10·0 g of the material and transfer it to the test sieve. Cover the sieve and screen the material in a mechanical sieve shaker for 20 minutes. After 20 minutes, stop the machine and brush the residue on the sieve into a tared weighing dish. Weigh the dish and determine the mass of the residue.

### A-3. CALCULATION

**A-3.1** Material passing through IS Sieve 30, percent by mass $= 100 \left( 1 - \frac{m}{M} \right)$.

where

$m$ = mass, in g, of the material retained on the test sieve; and

$M$ = mass, in g, of the material taken for the test.

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*Method for sampling of pesticidal formulations.

†Specification for water for general laboratory use ( *second revision* ).

# APPENDIX B

[ *Table* 1, *Item* (iii) ]

## DETERMINATION OF MATERIAL INSOLUBLE IN WATER

### B-1. PROCEDURE

**B-1.1** Weigh accurately about 5 g of the material into a clean 250-ml beaker and add to it 100 ml of water. Keep the beaker at 27°C and stir well to dissolve all soluble matter. Then filter the solution through a Gooch or sintered glass crucible of porosity No. 3 and wash well with water. Dry the crucible at 105 ± 2°C for 30 minutes, cool and weigh.

### B-2. CALCULATION

**B-2.1** Material insoluble in water, percent by mass

$$= \frac{(B - A) \times 100}{M}$$

where

$B$ = mass, in g, of the crucible with the dry residue;

$A$ = mass, in g, of the empty crucible; and

$M$ = mass, in g, of the material taken for the test.

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